EXHIBIT X

ALIGN TECHNOLOGY, INC., Plaintiff, v. CLEARCORRECT OPERATING, LLC, CLEARCORRECT HOLDINGS, INC., & INSTITUT STRAUMANN AG, Defendants. ——————————————— CLEARCORRECT OPERATING, LLC, CLEARCORRECT HOLDINGS, INC., & STRAUMANN USA, LLC, Counterclaim-Plaintiffs, v. ALIGN TECHNOLOGY, INC., Counterclaim-Defendant.	Case No. 6:24-cv-00187-ADA-DTG PATENT CASE **JURY TRIAL DEMANDED**

PLAINTIFF ALIGN TECHNOLOGY INC.'S FIRST AMENDED DISCLOSURE OF PROPOSED CONSTRUCTIONS & EXTRINSIC EVIDENCE

Pursuant to the Court's Scheduling Order (ECF No. 71), Plaintiff Align Technology, Inc. ("Align") discloses the following revised, proposed constructions in advance of the October 24, 2024, deadline. Align's revisions account for Defendants and Counterclaim-plaintiffs' October 10, 2024, revised disclosure of claim terms and accompanying proposed constructions and the parties' October 17, 2024, meet and confer regarding claim construction. Align also amends its October 17, 2024, disclosure of extrinsic evidence to add one document. Align reserves the right to modify or supplement these disclosures.

I. CONSTRUCTIONS FOR TERMS PROPOSED BY ALIGN

#	Term	Proposed Construction
1	"Stagger[ing]" '444 patent, cls. 1, 12, 26, 40	[delaying / delay] one or more teeth from moving one or more stages where it would otherwise move in order to prevent another tooth from colliding with and/or obstructing the path of the delayed tooth
2	"round trip[ping]" '444 patent, cls. 1, 13, 27, 41 '217 patent, cls. 1, 6, 7, 11, 16, 17 '879 patent, cls. 1, 6, 7, 9, 20	[moving / move] a first tooth out of the path of a second tooth, and once the second tooth has moved sufficiently, [moving / move] the first tooth back to its previous position before proceeding to a desired final position of that first tooth
3	"slow[ing]" '444 patent, cls. 14, 28, 42 '217 patent, cls. 5, 10, 15, 20 '456 patent cls. 9, 11	[having / have] one or more teeth scheduled to move at a rate less than the rate of other teeth, or even [stopping / stop] using interim key frames, so that collisions and/or obstructions do not occur

II. CONSTRUCTIONS FOR TERMS PROPOSED BY CLEARCORRECT

#	Term	Proposed Construction
1	[co-polyester … having …] / [co-polyester … has …] "flexural modulus greater than about 150,000 psi" / "flexural modulus greater than 150,000 psi" / "flexural modulus of greater than 150,000 psi" '613 patent, cls.[1] 1, 3, 4, 6-10, 12-15, 17, 18, 20, 22 '384 patent, cls. 1, 2, 4, 6-8, 10-12, 14, 16-18, 20-22, 24, 26-28, 30 '090 patent, cls. 1-3, 5, 9-10 '091 patent, cls. 1, 4-7, 9-11, 13, 17-19, 21, 25-26	No construction necessary (plain and ordinary meaning)
2	[soft polymer layer comprises …] "flexural modulus of greater than about 35,000 psi"	No construction necessary (plain and ordinary meaning)

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[1] By reproducing ClearCorrect's identifications of claims, Align does not concede that ClearCorrect's identifications are accurate.

	'613 patent, cl. 7	
3	[thermoplastic polyurethane elastomer … having …] / [soft polymer layer comprising …] "elongation at break of greater than about 200%" / "elongation at break of greater than 200%" '613 patent, cls. 1, 3, 4, 6-10, 12-15, 17, 18, 20, 22 '384 patent, cls. 1, 2, 4, 6-8, 10-12, 14, 16-18, 20-22, 24, 26-28, 30 '090 patent, cls. 1-3, 5, 9-10 '091 patent, cls. 1, 4-7, 9-11, 13, 17-19, 21, 25-26	No construction necessary (plain and ordinary meaning)
4	[hard polymer layer comprises …] / [hard polymer layer has …] / [co-polyester … having …] / [co-polyester … has …] "elongation at break of greater than about 70%" / "elongation at break of greater than 70%" '613 patent, cl. 6 '384 patent, cls. 7, 17, 27 '090 patent, cls. 1-3, 5, 9-10 '091 patent, cls. 1, 4-7, 9-11, 13, 17-19, 21, 25-26	No construction necessary (plain and ordinary meaning)
5	[hard polymer layer comprises …] / [copolyester having …] / [co-polyester … has …] "elongation at yield of greater than about 4%" / "elongation at yield of greater than 4%" '613 patent, cl. 6 '090 patent, cls. 1-3, 5, 9-10 '091 patent, cls. 1, 4-7, 9-11, 13, 17-19, 21, 25-26	No construction necessary (plain and ordinary meaning)
6	[hard polymer layer comprises …] / [hard polymer layer has …] / [co-polyester having …] / [co-polyester … has …] "tensile strength at yield of 4000-6500 psi" / "tensile strength at yield of between about 4000 psi and 6500 psi" / "tensile strength at yield between 4000 psi and 6500 psi"	No construction necessary (plain and ordinary meaning)

	'613 patent, cl. 6 '384 patent, cls. 6, 16, 26 '090 patent, cls. 1-3, 5, 9-10 '091 patent, cls. 1, 4-7, 9-11, 13, 17-19, 21, 25-26	
7	[hard polymer layer comprises …] / [had polymer layer has …] / [co-polyester having …] [co-polyester … has …] "tensile modulus of greater than about 150,000 psi" / "tensile modulus greater than 150,000 psi" '613 patent, cl. 6 '384 patent, cls. 4, 14, 24 '090 patent, cls. 1-3, 5, 9-10 '091 patent, cls. 1, 4-7, 9-11, 13, 17-19, 21, 25-26	No construction necessary (plain and ordinary meaning)
8	[hard polymer layer comprises …] "stress relaxation greater than about 10% at 24 hours testing in a wet environment" '613 patent, cl. 6	No construction necessary (plain and ordinary meaning)
9	[co-polyester has …] "stress relaxation at 24 hours in a wet environment of between 90- 100% humidity of greater than 10%" '090 patent, cl. 10	No construction necessary (plain and ordinary meaning)
10	[soft polymer layer comprises …] / [soft polymer layer has …] / [thermoplastic polyurethane elastomer having …] / [thermoplastic polyurethane elastomer has …] "ultimate tensile strength of greater than about 5000 psi" / "ultimate tensile strength of greater than 5000 psi" '613 patent, cl. 7 '384 patent, cls. 2, 12, 22 '090 patent, cls. 1-3, 5, 9-10 '091 patent, cls. 1, 4-7, 9-11, 13, 17-19, 21, 25-26	No construction necessary (plain and ordinary meaning)
11	"soft polymer layer … having … a hardness from about 60 A to about 85 D"	No construction necessary (plain and ordinary meaning)

	'613 patent, cls. 1, 3, 4, 6-10, 12-15, 17, 18, 20, 22 '384 patent, cls. 1, 2, 4, 6-8, 10-12, 14, 16-18, 20-22, 24, 26-28, 30	
12	"soft polymer layer" '613 patent, cls. 1, 3, 4, 6-10, 12-15, 17, 18, 20, 22 '384 patent, cls. 1, 2, 4, 6-8, 10-12, 14, 16-18, 20-22, 24, 26-28, 30	No construction necessary (plain and ordinary meaning)
13	"hard polymer layer" '613 patent, cls. 1, 3, 4, 6-10, 12-15, 17, 18, 20, 22 '384 patent, cls. 1, 2, 4, 6-8, 10-12, 14, 16-18, 20-22, 24, 26-28, 30	No construction necessary (plain and ordinary meaning)
14	"round tripping" / "round-tripping" '444 patent, cls. 1-14, 27, 41 '217 patent, cls. 1-20 '879 patent, cls. 1-14, 20-24	[moving / move] a first tooth out of the path of a second tooth, and once the second tooth has moved sufficiently, [moving / move] the first tooth back to its previous position before proceeding to a desired final position of that first tooth
15	"staggering" / "stagger" '444 patent, cls. 1-14, 26, 40	[delaying / delay] one or more teeth from moving one or more stages where it would otherwise move in order to prevent another tooth from colliding with and/or obstructing the path of the delayed tooth
16	"slowing" / "slow" '444 patent, cls. 14, 28, 42 '217 patent, cls. 5, 6, 10, 15, 16, 20 '456 patent, cls. 9-11	[having / have] one or more teeth scheduled to move at a rate less than the rate of other teeth, or even [stopping / stop] using interim key frames, so that collisions and/or obstructions do not occur
17	"optimal number of stages for the order of movement of the dental objects" '444 patent, cls. 5, 19, 33	the largest number of the minimum stages needed to place the patient's teeth in their final, desired position
18	"all-equal pattern" '444 patent, cls. 7, 21, 35 '456 patent, cl. 3	A pattern where all of a patient's teeth move in parallel with one another (i.e., all of the patient's teeth that need to move begin moving at the same stage, and finish moving at the same stage)

19	"V-shaped pattern" '444 patent, cls. 8, 22, 36 '456 patent, cl. 3	No construction necessary (plain and ordinary meaning)
20	"A-shaped pattern" '444 patent, cls. 9, 23, 37 '456 patent, cl. 3	No construction necessary (plain and ordinary meaning)
21	"M-shaped pattern" '444 patent, cls. 10, 24, 38 '456 patent, cl. 3	No construction necessary (plain and ordinary meaning)
22	"mid-line shift pattern" '444 patent, cls. 11, 25, 39 '456 patent, cl. 3	No construction necessary (plain and ordinary meaning)
23	"through at least one of staggering and roundtripping of at least one dental object" '444 patent, cls. 1-14	by staggering or roundtripping at least one dental object
24	"means for receiving an electronic representation of each dental object of the plurality of dental objects in relation to one another" '444 patent, cls. 15-28	a computing device and equivalents E.g., '444 patent, 5:12-16
25	"means for receiving an electronic representation of a desired final position for each respective dental object" '444 patent, cls. 15-28	a computing device and equivalents E.g., '444 patent, 5:16-19
26	"means for determining an order of movement for each respective dental object such that the dental objects avoid colliding with each other on their respective routes from said initial position to said desired final position" '444 patent, cls. 15-28	a computer program that performs the steps identified in Figure 2B and equivalents E.g., '444 patent, 5:19-22, 5:29-6:46, Fig. 2B
27	"means for determining the order of movement" '444 patent, cls. 16-18	a computer program that performs the steps identified in Figure 2B and equivalents

		E.g., '444 patent, 5:19-22, 5:29-6:46, Fig. 2B
28	"means for determining a route each respective dental object will move to achieve its respective final position" '444 patent, cls. 16-18	a computer program that is configured to segment an initial digital dataset into digital models of individual dental objects and gingival tissue, calculate a transformation for each dental object, and then calculate one or more intermediate positions for each dental object, taking into account any constraints imposed on the movement of dental objects and any collisions that might occur between dental objects as the dental objects move from one treatment stage to the next and equivalents E.g., '444 patent, 3:19-24, 3:36-61
29	"means for determining the distance each respective dental object will move to achieve its respective final position" '444 patent, cls. 16-18	a computer program that determines the distance each respective dental object will move to achieve its respective final position and equivalents E.g., '444 patent, 4:58-5:10
30	"means for determining a rate at which each respective dental object will move along its respective route" '444 patent, cls. 16-18	a computer program that determines a rate at which each respective dental object will move along its respective route E.g., '444 patent, 4:58-5:10
31	"means for determining (a), (b), and (c) in relation to each of the other dental objects" '444 patent, cls. 17-18	a computer program that is configured to segment an initial digital dataset into digital models of individual dental objects and gingival tissue, calculate a transformation for each dental object, and then calculate one or more intermediate positions for each dental object, taking into account any constraints imposed on the movement of dental objects and any collisions that might occur between dental objects as the dental objects move from one treatment stage to the next and equivalents E.g., '444 patent, 3:19-24, 3:36-61
32	"means for adjusting at least one of the route and the rate of at least one dental object to avoid collision with at least one other dental object" '444 patent, cl. 18	a computer program that performs collision avoidance via round-tripping, staggering, or slowing, wherein the computer program first attempts staggering of the teeth movement, followed by slowing-down/interim key frames if the staggering does not avoid

		collisions, and then followed by round-tripping as a last resort and equivalents E.g., '444 patent, 12:41-65
33	"means for determining an optimal number of stages for the order of movement of the dental objects" '444 patent, cls. 19-20	a computer program that determines an optimal number of stages by selecting the largest number of the minimum number of stages needed to place the dental objects in their final, desired positions and equivalents E.g.,, '444 patent, 15:6-20
34	"means for determining the optimal number of stages step" '444 patent, cl. 20	a computer program that determines an optimal number of stages by selecting the largest number of the minimum number of stages needed to place the dental objects in their final, desired positions and equivalents E.g.,, '444 patent, 15:6-20
35	"means for determining a total distance each respective dental object will move;" '444 patent, cl. 20	a computer program for determining a total distance each respective dental object will move and equivalents E.g., '444 patent, 4:58-5:10
36	"means for dividing the total distance for each dental object by its respective maximum speed to determine a number of movement stages for each dental object;" '444 patent, cl. 20	a computer program for dividing the total distance for each dental object by its respective maximum speed to determine a number of movement stages for each dental object and equivalents E.g., '444 patent, 4:58-5:10
37	"means for determining a number of non-movement stages for each respective dental object;" '444 patent, cl. 20	a computer program for determining a number of non-movement stages for each respective dental object and equivalents E.g., '444 patent, 4:58-5:10
38	"means for adding the number of movement stages to the number of non-movement stages for each dental object to determine a minimum number of stages for each respective dental object" '444 patent, cl. 20	a computer program for adding the number of movement stages to the number of non-movement stages for each dental object to determine a minimum number of stages for each respective dental object and equivalents E.g., '444 patent, 4:58-5:10
39	"means for selecting the largest of the minimum number of stages" '444 patent, cl. 20	a computer program for selecting the largest of the minimum number of stages and equivalents E.g., '444 patent, 4:58-5:10

40	"means for determining the order of movement" '444 patent, cls. 21-28	a computer program that performs the steps identified in Figure 2B and equivalents E.g., '444 patent, 5:19-22, 5:29-6:46, Fig. 2B
41	"means for ordering the movement of the dental objects in an all-equal pattern" '444 patent, cl. 21	a computer program configured to utilize the pattern depicted in Figure 3 and equivalents E.g., '444 patent, 6:47-51, 7:27-29, Fig. 3
42	"means for ordering the movement of the dental objects in a V-shaped pattern" '444 patent, cl. 22	a computer program configured to utilize the pattern depicted in Figure 5 and equivalents E.g., '444 patent, 9:12-15, 9:42-44, Fig. 5
43	"means for ordering the movement of the dental objects in an A-shaped pattern" '444 patent, cl. 23	a computer program configured to utilize the pattern depicted in Figure 4 and equivalents E.g., '444 patent, 7:47-49, 8:26-28, Fig. 4
44	"means for ordering the movement of the dental objects to form an M-shaped pattern" '444 patent, cl. 24	a computer program configured to utilize the pattern depicted in Figure 7 and equivalents E.g., '444 patent, 11:41-44, 12:7-9, Fig. 7
45	"means for ordering the movement of the dental objects in a mid-line shift pattern" '444 patent, cl. 25	a computer program configured to utilize either the pattern depicted in Figure 6A or Figure 6B and equivalents E.g., '444 patent, 10:19-21, 10:57-60, 11:17-20, Fig. 6A, Fig. 6B
46	"means for staggering the movement of at least two dental objects" '444 patent, cl. 26	a computer program configured to delay one or more teeth from moving one or more stages where it would otherwise move in order to prevent another tooth from colliding with and/or obstructing the path of the delayed tooth and equivalents E.g., '444 patent, 12:44-48
47	"means for round tripping at least one dental object" '444 patent, cl. 27	a computer program configured to move a first tooth out of the path of a second tooth, and once the second tooth has moved sufficiently, move the first tooth back to its previous position before proceeding to a desired final position of the first tooth and equivalents E.g., '444 patent, 12:51-55

48	"means for slowing the movement of at least one dental object" '444 patent, cl. 28	a computer program configured to schedule one or more teeth to move at a rate less than the rate of other teeth, or even stopping the one or more teeth using interim key frames, so that collisions and/or obstructions do not occur and equivalents E.g., '444 patent, 12:48-51
~~49~~	~~"of a physically changed portion" / "including the physically changed portion"[2]~~ ~~'936 patent, cls. 1-16~~	~~No construction necessary~~
~~50~~	~~"translation mechanism for displacing the one or more focal planes relative to the sensing face"[3]~~ ~~'936 patent, cls. 2-3, 18-19~~	~~No construction necessary~~
51	"replace [replacing] at least a portion of the [removed] surface portion of the model […] using the received second scan data [at least a portion of the second scan data]" '936 patent, cls. 1-20	No construction necessary (plain and ordinary meaning)
52	"second scan data of the patient's teeth" '936 patent, cls. 17-20	No construction necessary (plain and ordinary meaning)

III. ALIGN'S DISCLOSURE OF EXTRINSIC EVIDENCE

Align may rely on the following extrinsic evidence to support its proposed constructions or refute those proposed by Defendants and Counterclaim-plaintiffs:

- ASTM International American National Standard Nos. D412, D638, D790, D882, D2240, D2991, D6272, E328 (ALGN00021744-56; ALGN00021774-73; ALGN00021803-60; ALGN00022068-70);

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[2] ClearCorrect informed Align that it no longer proposes term 49 for construction.
[3] Align no longer asserts claims 2, 3, 18, and 19 of United States Patent No. 10,791,936 in this suit. Thus, term 50 does not need to be construed.

- James F. Shackelford & William Alexander, MATERIALS SCIENCE AND ENGINEERING HANDBOOK (2001) (ALGN00022083-24010);

- H. J. Qi et al., *Durometer Hardness and the Stress-Strain Behavior of Elastomeric Materials*, 76 RUBBER CHEMISTRY & TECH. 419 (2003) (ALGN00024011-24027);

- Excerpts from Dominick V. Rosato, ROSATO'S PLASTICS ENCYCLOPEDIA AND DICTIONARY (1993) (ALGN00024028-38);

- Excerpts from Lloyd R. Whittington, WHITTINGTON'S DICTIONARY OF PLASTICS (1978) (ALGN00024039-50);

- Orhan C. Tuncay, THE INVISALIGN® SYSTEM (2006) (CC_ALGN_00003900-4234);

- Defendants and Counterclaim-plaintiffs' September 26, 2024 Preliminary Invalidity Contentions and accompanying exhibits;

- Testimony by Robert Kimmel, Ph.D. regarding (1) the nature and knowledge of a POSA by the critical date of United States Patent Nos. 10,793,613, 11,154,384, 11,648,090, 11,648,091, (2) how a POSA would have determined flexural modulus, elongation at break, elongation at yield, tensile strength at yield, tensile modulus, stress relaxation, ultimate tensile strength, and hardness, (3) principles of materials science, and (4) other issues that may arise as claim construction proceeds;

- Testimony by Eric Kuo, DDS MS regarding (1) the nature and knowledge of a POSA by the critical dates of United States Patent Nos. 8,038,444, 10,456,217, 10,524,879, 10,791,936, and 11,369,456, (2) how a POSA would have understood the claim terms that ClearCorrect contends are subject to 35 U.S.C. § 112(6), (3) principles of orthodontics, and (4) other issues that may arise as claim construction proceeds; and

- Testimony by Karan Singh, Ph.D. regarding (1) the nature and knowledge of a POSA by the critical dates of United States Patent Nos. 8,038,444, 10,456,217, 10,524,879,

10,791,936, and 11,369,456, (2) how a POSA would have understood the claim terms that ClearCorrect contends are subject to 35 U.S.C. § 112(6), (3) principles of computer science, and (4) other issues that may arise as claim construction proceeds.

Dated: October 22, 2024

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CERTIFICATE OF SERVICE

I hereby certify that on October 22, 2024, a true and correct copy of the foregoing document was served via email on all counsel of record.

/s/ Forrest McClellen
Forrest McClellen